

()

*

**

:

()

(± /)

)

()

.(

(OR= P < /)

()

:

*

**

()

RNA DNA

(.)

G0

(.)

(.)

:

()

(% /)

(% /) (%)

(% /) (% /)

(/)

(/) ()

/) (/) RPMI

(

GIBCO 1640

(Fcs)

PHA GIBCO

(%) GIBCO

() Sigma

/

/

(/)

()

)

(

Merck

%

*

(OR= $p \leq /$)

Chromosomal Exchange

(Deletion) ()

(% /) (%) (%)

(% /) (% /) /

%

($P > /$) %

(

*

()	()	()**
()	()	()
()	()	()
()	()	()
()	()	()
()	()	()
()	()	()
()	()	()

*

()

**

(p > /)

(%)

(% /)

(% /)

(%)

(p > /)

(.)

(Lamerti Bigatti)

)

(
).

(p= /

p= /

.()

%

.()

()

(Jha Sharmat)

/

/

/

.()

.()

()

:

GY

/ / /

.()

.()

Fluorecence insito

hybridisation

.()

.()

.()

.()

.()

%

Barquintero

.()

.()

()

.()

References :

1. Hall EJ. Radiobiology for the radiologist. 4thed. Philadelphia: Lippincott 1994, 1-13.
2. Pierce DA, Shimizu Y, Preston DL, et al. Studies of the mortality of atomic bomb survivors. Report 12 , part I . cancer : 1950 – 1990. Radiat Res 1996;146:1-27.
3. 1990 Recommendations of the International Commission on Radiological Protection – ICRP Publication 60. Ann ICRP 1991;21:1-27.
4. Persson L. Effects of low – dose ionizing radiation . Swedish Radiation Protection Institute SE-1711, Stockholm 2000.
5. Evans HJ, Buckton KE, Hamilto GE, et al. Radiation – induced chromosome aberrations in nuclear dockyard worker. Nature 1979; 277: 531-4.
6. Miyaji CK, Colus IM. Cytogenetic biomonitoring of Brazilian dentists occupationally exposed to low dose of x-radiation . Pesqui Odontol Bras 2002;16:196-201.
7. Biggati P, Lamerti G. Cytogenetic monitoring of hospital worker exposed to low level Ionizing radiation. Mutat Res 1988;204:343-397.
8. Jha AN , Sharma T. Enhanced frequency of chromosomal aberration in workers exposed to diagnostic X-rays. Mutat Res 1991;260:343-346.
9. Batanjac J. Enhanced frequency of chromosomal aberration in workers occupationally exposed to ionizing radiation. Facta Universitatis 2000;7: 46-48.
10. Gounrabi H, Mozdarani H. Cytogenetic biodosimetry of radiation worker and evaluation of adaptive reserch to ionizing radiation. Yakhteh 2000;5:65-8.
11. Tawn EJ . Stable chromosome aberration frequencies in men occupationally exposed to radiation . Radiol Protect 2003;23:269-78.
12. MAFFEI F, ANGELINI S, CANTELLI FORTI G, et al. Spectrum of chromosomal aberration in peripheral lymphocyt of hospital worker's occupationally exposed to low doses of ionizing radiation . Mutat Res Fund Molecul Mechan Mutagen 2004; 547, 91-99.
13. Lalic H, Radosevic–Stastic B. Chromosome aberration in peripheral blood lymphocytes in subject occupationally exprses to ionizing radiation or chemical clastogens. Foli Biol 2002;48:102-07.
14. Barguinerio JF, Barrios L, Caballin MR, et al. Cytogenetic analysis of lymphocytes from hospital worker occupationally exposed to low levels of ionizing radiation. Mutat Res 1993;286: 275-9.
15. Cardoso RS, Takahashi-Hyodo S, Peitl P, et al. Evaluation of chromosomal aberrations, micronuclei, and sister chromatid exchanges in hospital workers chronically exposed to ionizing radiation. Teratog Carcinog Mutagen 2001;21:431-9.

17. Sorsa M , Ojajarri A , Salmama AS.
Cytogenetic surveillance of workers exposed to
genotoxic chemicals: preliminary from a
prospective cancer study in a cytogenetic cohort.
Teratog Carcinog 1990;10:215-21. .

:()